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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/668,777	Applicant(s) ERRICO ET AL.	
	Examiner Joseph G Ustaris	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-61 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-61 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 4, 5, 6, 7.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-5, and 43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "said default attribute" on page 121 lines 1-2. There is insufficient antecedent basis for this limitation in the claim. The examiner will assume that "said default attribute" refers to "said default comparison".

Claim 3 recites the limitation "said second sub-attribute" in line 1. There is insufficient antecedent basis for this limitation in the claim. The examiner will assume that claim 3 is dependent off claim 2.

Claim 4 recites the limitation "said first sub-attribute" in line 1. There is insufficient antecedent basis for this limitation in the claim. The examiner will assume that claim 4 is dependent off claim 2. Furthermore, it is unclear how a "first sub-attribute" is added to the "program attribute information" when the "program attribute information" already includes a "first sub-attribute", as stated in claim 2. The examiner will assume that the "first sub-attribute" is added to the "user attribute information".

Claim 5 recites the limitation "said first sub-attribute and said second sub-attribute" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim. The examiner will assume that claim 5 is dependent off claim 2.

Claim 43 recites the limitation "said mapping" in line 3. It is unclear to which mapping it is referring to. The examiner will assume that "said mapping" is referring to the "first mapping" recited in claim 42.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-13, 48, 52, 54, and 56 are rejected under 35 U.S.C. 102(e) as being anticipated by Ismail et al. (US006614987B1).

Regarding claim 1, Ismail et al. (Ismail) discloses system for television program recording with user preference determination, wherein the system selects a television program or "audio and video" that meets the user's preferences and records it. The system receives user preferences from a preference database or "user attribute information" and program attributes from the television signal or "program attribute information" (See Fig. 1 elements 104, 105, 107, and 116; column 1 lines 54-67). The preference agent inherently creates a mapping that relates or "interrelates" the program attributes with the user preference or "at least a portion of said user attribute information and at least a portion of said program attribute information" so that the system can

select television programs that are of interest to the user. The preference agent also supplements the mapping with a rating system that rates the user preferences against the program attributes and actual viewing habits of the user or "supplementing said mapping with at least one additional interrelationship" to further enhance the selection process (See Fig. 2; column 3 line 66 – column 4 line 35; column 8 lines 20-55; column 9 line 59 – column 10 line 31). The results of the mapping and ratings from the preference agent are used for selecting television programs to record.

Regarding claim 2, the program attributes include various fields for information, i.e. Director and Martin Scorcese, or "first attribute...first sub-attribute" (See column 6 lines 1-18). The user preferences also include category-value pairs, i.e. theme: comedy, or "second attribute...second sub-attribute" (See column 6 lines 18-35). The rating system, as discussed above, enhances the selection process by weighing in the user's viewing habits. The system compares the television's program attributes to the category-value pairs stored within the user preferences or "comparison between first attribute and said second attributes", which also includes the values or "sub-attributes" (See column 11 lines 5-50).

Regarding claim 3, the preference database stores category-value pairs generated from the program attributes. One of the values or "second sub-attribute" for each category is a time representing a duration of time viewed by the user or "second sub-attribute is added to program attribute information" (See column 3 line 66 – column 4 line 30).

Regarding claim 4, the preference agent generates category-value pairs from the program attributes and stores the information in the preference database or "first sub-attribute is added to user attribute information" (See column 6 lines 1-35).

Regarding claim 5, the "sub-attributes" of the user preferences and program attributes are referred to as values. Furthermore, when the system is updating, it compares the categories and category values for a match, wherein if a match exists inherently both values would have the same name (See column 11 lines 5-50).

Claim 6 contains the limitations of claim 1 (wherein the user preferences store category value pairs, i.e. category: value, or "first hierarchical levels" and the program attributes store information in a similar fashion, i.e. Theme: sub-theme, or "second hierarchical levels" (See column 5 line 18 – column 6 line 35)) and is analyzed as previously discussed with respect to that claim.

Regarding claim 7, the user preferences include category value pairs or "individual preference element" where it includes a category or "name identifier" and a value (See column 6 lines 18-35). The program attributes includes various information, i.e. ITEMs or "program description element", where it can list a Director or "name identifier" and Martin Scorcese or a "value" (See column 5 line 18 – column 6 line 18).

Regarding claim 8, the values are compared as discussed in claims 1, 2, and 5 above.

Regarding claim 9, inherently the mapping includes a path or "first path" to locate or "identifies" specific values within category value pairs in the preference database and

a path or "second path" to locate or "identifies" specific information within the program attributes (See column 5 line 18 – column 6 line 35).

Claim 10 contains the limitations of claim 9 (wherein the paths can locate specific or "uniquely identifies" values within the user preferences, i.e. Category Name – Category Value (See column 6 lines 18-35)) and is analyzed as previously discussed with respect to that claim.

Claim 11 contains the limitations of claim 10 and is analyzed as previously discussed with respect to that claim.

Regarding claim 12, the categories within the user preferences are general fields, i.e. title, director, theme, and program type, and are not unique to any particular program or user.

Regarding claim 13, when the system is updating it compares the categories of the program attributes and user preferences for a match or "interrelate", where inherently the corresponding paths or "first and second paths" are used to locate the information. Furthermore, the system also compares category values of the program attributes and user preference for a match or "interrelate", where inherently the corresponding paths or "third and second paths" are used to locate the information (See column 11 lines 5-50).

Claim 48 contains the limitations of claim 6 and is analyzed as previously discussed with respect to that claim. Furthermore, the system records the television programs of interest to the user in the order of highest priority (See claim 1 above) or "further selecting...how the user desires to consume" (See column 10 lines 15-31).

Regarding claim 52, the system selects to record in accordance with available capacity of the storage device or "upon the user's available storage" (See column 2 lines 9-20).

Claim 54 contains the limitations of claims 48 and 52 and is analyzed as previously discussed with respect to those claims.

Claim 56 contains the limitations of claims 52 and 54 and is analyzed as previously discussed with respect to those claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ismail et al. (US006614987B1) in view of Nishi (US006681395B1).

Regarding claim 14, Ismail et al. (Ismail) discloses system for television program recording with user preference determination, wherein the system selects a television program or "audio and video" that meets the user's preferences and records it. The system receives user preferences from a preference database or "user attribute information" and program attributes from the television signal or "program attribute information" (See Fig. 1 elements 104, 105, 107, and 116; column 1 lines 54-67), wherein the user preferences store category value pairs, i.e. category: value, or "first

hierarchical levels" and the program attributes store information in a similar fashion, i.e. Theme: sub-theme, or "second hierarchical levels" (See column 5 line 18 – column 6 line 35). The preference agent inherently creates a mapping that relates or "interrelates" the program attributes with the user preference or "at least a portion of said user attribute information and at least a portion of said program attribute information" so that the system can select television programs that are of interest to the user. The preference agent also supplements the mapping with a rating system that rates the user preferences against the program attributes and actual viewing habits of the user or "supplementing said mapping with at least one additional interrelationship" to further enhance the selection process (See Fig. 2; column 3 line 66 – column 4 line 35; column 8 lines 20-55; column 9 line 59 – column 10 line 31). The results from the mapping and ratings from the preference agent are used for selecting television programs to record. However, Ismail lacks a feature where the mapping identifies multiple children of a parent.

Ismail suggests that program attributes are obtained from interactive program guides (See column 5 lines 1-5). Nishi discloses a program information table that is generated from program guide information or program attributes. The program information table is able to list multiple programs that are part of one particular category, i.e. Soccer and World Cup Ski or "instances of multiple children" are part of category SP or "parent", or "identification of instances of multiple children of a parent" (See Fig. 9B). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the mapping disclosed by Ismail to be able to identify

multiple programs that belong to the same category, as taught by Nishi, to enhance the mapping thereby allowing a quicker and more efficient selection process.

Regarding claim 15, the mapping identifies Soccer or "particular child" that is part of category SP or "parent", wherein SP also list other titles or "multiple children" (See Nishi Fig. 9B).

Regarding claim 16, Nishi further teaches that a particular category or "parent" can be marked as a favorite or "identification of a particular parent" where the favorite mark is used to restrict content to only titles under category SP (See Nishi Fig. 10 and column 7 lines 45-67).

Claims 17, 18, 23-28, and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ismail et al. (US006614987B1) in view of Beyers, II et al. (US005381477A).

Regarding claim 17, Ismail et al. (Ismail) discloses system for television program recording with user preference determination, wherein the system selects a television program or "audio and video" that meets the user's preferences and records it. The system receives user preferences from a preference database or "user attribute information" and program attributes from the television signal or "program attribute information" (See Fig. 1 elements 104, 105, 107, and 116; column 1 lines 54-67), wherein the user preferences store category value pairs, i.e. category: value, or "first hierarchical levels" and the program attributes store information in a similar fashion, i.e. Theme: sub-theme, or "second hierarchical levels" (See column 5 line 18 – column 6

line 35). The preference agent inherently creates a mapping that relates or "interrelates" the program attributes with the user preference or "at least a portion of said user attribute information and at least a portion of said program attribute information" so that the system can select television programs that are of interest to the user. The preference agent also supplements the mapping with a rating system that rates the user preferences against the program attributes and actual viewing habits of the user or "supplementing said mapping with at least one additional interrelationship" to further enhance the selection process (See Fig. 2; column 3 line 66 – column 4 line 35; column 8 lines 20-55; column 9 line 59 – column 10 line 31). The results from the mapping and ratings from the preference agent are used for selecting television programs to record. However, Ismail lacks a feature where the mapping performs a test operation between the user preferences and program attributes.

Beyers, II et al. (Beyers) discloses a system that selects an individual subscriber terminal within a television network based on a comparison between certain selection criteria and stored terminal criteria (See column 2 line 50 – column 3 line 11). The system uses various operators to compare parameters between the selection criteria and the stored terminal criteria, i.e. AND, OR, NOT, equal to, greater than, greater than or equal to, less than, and less than or equal to (See column 37 lines 15-30). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the mapping disclosed by Ismail to perform test operations between the user preferences and program attributes, as taught by Beyers, in order to

provide a more versatile mapping thereby allowing the user to have more options when defining selection criteria.

Claim 18 contains the limitations of claim 17 (wherein the system selects television programs to record) and is analyzed as previously discussed with respect to that claim.

Claim 23 contains the limitations of claim 17 (wherein the operators include less than) and is analyzed as previously discussed with respect to that claim.

Claim 24 contains the limitations of claim 17 (wherein the operators include greater than) and is analyzed as previously discussed with respect to that claim.

Claim 25 contains the limitations of claim 17 (wherein the operators include less than or equal to) and is analyzed as previously discussed with respect to that claim.

Claim 26 contains the limitations of claim 17 (wherein the operators include greater than or equal to) and is analyzed as previously discussed with respect to that claim.

Claim 27 contains the limitations of claim 17 (wherein the operators include logical NOT, wherein the logical NOT serves the same purpose as a not equal to) and is analyzed as previously discussed with respect to that claim.

Claim 28 contains the limitations of claim 17 (wherein the operators include equal to) and is analyzed as previously discussed with respect to that claim.

Claim 30 contains the limitations of claim 17 (wherein the operators include "combinatorial operator") and is analyzed as previously discussed with respect to that claim.

Claim 31 contains the limitations of claims 18 and 30 and is analyzed as previously discussed with respect to those claims.

Claim 32 contains the limitations of claims 17 and 31 (wherein the operators include logical AND) and is analyzed as previously discussed with respect to that claim.

Claim 33 contains the limitations of claims 17 and 31 (wherein the operators include logical OR) and is analyzed as previously discussed with respect to that claim.

Claims 19-22 rejected under 35 U.S.C. 103(a) as being unpatentable over Ismail et al. (US006614987B1) in view of Beyers, II et al. (US005381477A) as applied to claims 17, 18, 23-28, and 30-33 above, and further in view of Kumhyr et al. (US006421680B1) and Hoffman, Jr. et al. (US006122657A).

Regarding claim 19, Ismail in view of Beyers lacks a substring-case-insensitive test operator.

Kumhyr et al. (Kumhyr) discloses a system and method for searching international databases. The search is performed as an insensitive search where a search string is created to search for a matching case insensitive text strings (See column 2 lines 30-40). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the test operation disclosed by Ismail in view of Beyers to include case insensitive string search test operations, as taught by Kumhyr, in order to expand the functions of the mapping thereby giving the user a more precise and accurate search and selection process.

Hoffman, Jr. et al. (Hoffman) discloses a search method for searching hypertext tags. The search method performs a case insensitive substring or "substring-case-insensitive" match operation (See column 28 lines 49-60). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the test operation disclosed by Ismail in view of Beyers to include case insensitive substring search test operations, as taught by Hoffman, in order to further expand the functions of the mapping thereby further refining the search and selection process.

Claim 20 contains the limitations of claim 19 (wherein Kumhyr performs a case insensitive string search) and is analyzed as previously discussed with respect to that claim.

Regarding claims 21 and 22, Official Notice is taken that it is well known to search and filter using case sensitive string and substring test operations. Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the test operations disclosed by Ismail in view of Beyers to include case sensitive string and substring test operations in order to enable the mapping to perform various tests thereby ensuring a thorough search and selection process.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ismail et al. (US006614987B1) in view of Beyers, II et al. (US005381477A) as applied to claims 17, 18, 23-28, and 30-33 above, and further in view of Tanaka (US20020178135A1).

Regarding claim 29, Ismail in view of Beyers lacks an approximately test operator.

Tanaka discloses a system that searches an image database. The search system uses various search conditions to find an image similar to a user-specified image (See paragraph 0004). One search method is where the system searches for values approximately equal in value or "approximately the same" (See paragraph 0013). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the test operations disclosed by Ismail in view of Beyers to include approximately test operations, as taught by Tanaka, in order to enable the mapping to perform various tests thereby ensuring a thorough and accurate search and selection process.

Claims 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ismail et al. (US006614987B1) in view of Beyers, II et al. (US005381477A) as applied to claims 17, 18, 23-28, and 30-33 above, and further in view of Tannen (US006240406B1).

Regarding claim 34, Ismail in view of Beyers lacks an MAX combinatorial operator.

Tannen discloses a system and method for optimizing database queries used in searching databases. The database queries include various rules to optimize the query, i.e. MAX, MIN, SUM, and PROD, wherein MAX represents the highest value of finite sets of numbers (See column 5 lines 59-67). Therefore, it would have been obvious to

one with ordinary skill in the art at the time the invention was made to modify the combinatorial operations disclosed by Ismail in view of Beyers to include a MAX operation, as taught by Tannen, in order to enable the mapping to perform various tests and combinations thereby ensuring a thorough and optimized search and selection process.

Claim 35 contains the limitations of claims 31 and 34 (wherein the operators include a MIN operator, wherein MIN represents the lowest value of finite sets of numbers) and is analyzed as previously discussed with respect to those claims.

Claim 36 contains the limitations of claims 31 and 34 (wherein the operators include a PROD operator, wherein PROD represents the product of finite sets of numbers) and is analyzed as previously discussed with respect to those claims.

Claim 37 contains the limitations of claims 31 and 34 (wherein the operators include a SUM operator, wherein SUM represents the sum of finite sets of numbers) and is analyzed as previously discussed with respect to those claims.

Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ismail et al. (US006614987B1) in view of Beyers, II et al. (US005381477A) as applied to claims 17, 18, 23-28, and 30-33 above, and further in view of Paulsen, Jr. et al. (US006078917A).

Regarding claim 38, Ismail in view of Beyers lacks an FREQ combinatorial operator.

Paulsen, Jr. et al. (Paulsen) discloses a system for searching and retrieving documents from document database (See column 2 lines 20-35). The system provides the results of a search within a search result panel (See Fig. 3), wherein the search can be performed using Boolean operations as taught by Beyers. The search result panel gives a number of how many documents satisfied the initial search or "pair of interrelations Boolean counted together", wherein the number is the standard form of representing the number of documents or "resulting sum normalized" or otherwise known as "FREQ" (See Fig. 3 element 218 and column 7 lines 20-35). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the combinatorial operations disclosed by Ismail in view of Beyers to include a "FREQ" operation, as taught by Paulsen, in order to enable the mapping to perform various tests and combinations and to track the results thereby giving the user a gauge to whether the search and selection process was effective.

Regarding claim 39, Paulsen further discloses that a number shown at the side of each document indicates how many like documents are associated with the displayed document or "pair of interrelations Boolean counted together", wherein the number represents the number of documents that satisfy that particular test operation or "resulting sum normalized by the number of individual preference tests" or otherwise known as "RATIO" (See column 7 lines 20-35).

Claims 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ismail et al. (US006614987B1) in view of Beyers, II et al. (US005381477A) as applied to

claims 17, 18, 23-28, and 30-33 above, and further in view of Legall et al. (US006005565A).

Ismail in view of Beyers lacks a "CAND" combinatorial operator.

Legall et al. (Legall) discloses a power search tool that utilizes Boolean combinations to perform various searches (See column 5 lines 20-35). The user is able to enter various filter parameters, i.e. source, topics, category, subcategory, and EPG length, where the various filter parameters are combined using logical operators (See column 3 line 60 – column 4 line 15). The user is able to select a certain source to search or "constrained to a common node" or otherwise known as "CAND" (See Fig. 3B element 341). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the combinatorial operations disclosed by Ismail in view of Beyers to include a "CAND" operation, as taught by Legall, in order to enable the mapping to perform various tests and combinations thereby ensuring a quicker and thorough search and selection process.

Claims 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ismail et al. (US006614987B1) in view of Beyers, II et al. (US005381477A) as applied to claims 17, 18, 23-28, and 30-33 above, and further in view of Kubota (US006041323A).

Ismail in view of Beyers lacks an "SAND" combinatorial operator.

Kubota discloses a system and method for searching a large volume of documents. Kubota utilizes fuzzy operations, i.e. fuzzy AND, to perform some of the searches, wherein fuzzy AND performs an AND operation in a "non-Boolean manner" or

otherwise known as "SAND" (See column 16 lines 39-60). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the combinatorial operations disclosed by Ismail in view of Beyers to include a "SAND" operation, as taught by Kubota, in order to enable the mapping to perform various tests and combinations thereby ensuring a thorough and optimized search and selection process.

Claims 42-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ismail et al. (US006614987B1) in view of Beyers, II et al. (US005381477A) and Legall et al. (US006005565A).

Regarding claim 42, Ismail et al. (Ismail) discloses system for television program recording with user preference determination, wherein the system selects a television program or "audio and video" that meets the user's preferences and records it. The system receives user preferences from a preference database or "user attribute information" and program attributes from the television signal or "program attribute information" (See Fig. 1 elements 104, 105, 107, and 116; column 1 lines 54-67), wherein the user preferences store category value pairs, i.e. category: value, or "first hierarchical levels" and the program attributes store information in a similar fashion, i.e. Theme: sub-theme, or "second hierarchical levels" (See column 5 line 18 – column 6 line 35). The preference agent inherently creates a mapping that relates or "interrelates" the program attributes with the user preference or "at least a portion of said user attribute information and at least a portion of said program attribute information" so that

the system can select television programs that are of interest to the user. The preference agent also supplements the mapping with a rating system that rates the user preferences against the program attributes and actual viewing habits of the user or "supplementing said mapping with at least one additional interrelationship" to further enhance the selection process (See Fig. 2; column 3 line 66 – column 4 line 35; column 8 lines 20-55; column 9 line 59 – column 10 line 31). The results from the mapping and ratings from the preference agent are used for selecting television programs to record. However, Ismail lacks a feature where the mapping performs a multiple test operation between the user preferences and program attributes.

Beyers, II et al. (Beyers) discloses a system that selects an individual subscriber terminal within a television network based on a comparison between certain selection criteria and stored terminal criteria (See column 2 line 50 – column 3 line 11). The system uses various operators to compare parameters between the selection criteria and the stored terminal criteria, i.e. AND, OR, NOT, equal to, greater than, greater than or equal to, less than, and less than or equal to (See column 37 lines 15-30). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the mapping disclosed by Ismail to perform test operations between the user preferences and program attributes, as taught by Beyers, in order to provide a more versatile mapping thereby allowing the user to have more options when defining selection criteria.

Legall et al. (Legall) discloses a power search tool that utilizes Boolean combinations to perform various searches (See column 5 lines 20-35). The user is able

to enter various filter parameters, i.e. source, topics, category, subcategory, and EPG length, where the various filter parameters are combined using logical operators (See column 3 line 60 – column 4 line 15). The combination of the filter parameters provides multiple logical operators, i.e. topics AND/OR category AND/OR subcategory, or "providing a second mapping including a second combinatorial operator" (See Fig. 3B and Fig. 4; column 3 line 60 – column 4 line 15). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the test/combinatorial operations disclosed by Ismail in view of Beyers to perform multiple test/combinatorial operations, as taught by Legall, in order to enable the mapping to perform various tests and combinations thereby further refining the search and selection process.

Claim 43 contains the limitations of claims 31 and 42 and is analyzed as previously discussed with respect to those claims.

Regarding claim 44, Ismail discloses that categories within the user preferences and program attributes are evaluated (See Ismail column 4 lines 25-35 and column 11 lines 25-50). Legall discloses that an additional test/combinatorial operation can be performed where the user can add additional parameters defined in a different field, i.e. EPG start time or program start time or "dissimilar reference names" (See Legall Fig. 3B element 351).

Claim 45 contains the limitations of claim 44 and is analyzed as previously discussed with respect to that claim. Furthermore, the user can add additional

parameters also defined in categories or "same reference names" (See Legall Fig. 3B element 344).

Claim 46 contains the limitations of claim 45 and is analyzed as previously discussed with respect to that claim. Furthermore, Legall discloses that the combination of the filter parameters provides multiple logical operators, i.e. topics AND/OR category AND/OR subcategory AND/OR rating, or "third mapping including a third combinatorial operator" (See Fig. 3B and Fig. 4; column 3 line 60 – column 4 line 15).

Claim 47 contains the limitations of claims 9 and 43 (where inherently the second operation is constrained to the paths or "base path" defined in the first mapping) and is analyzed as previously discussed with respect to that claim.

Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ismail et al. (US006614987B1).

Ismail lacks a feature where the user can select a volume preference when selecting to "consume" a television program.

Official Notice is taken that it is well known to set volume preferences within a user profile. Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the system disclosed by Ismail to allow the user to set a volume preference in order to give the user more options within the user preferences thereby increasing the convenience to the user.

Claims 50, 53, 55, 58-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ismail et al. (US006614987B1) in view of Lin (US006498783B1).

Regarding claim 50, Ismail et al. (Ismail) discloses system for television program recording with user preference determination, wherein the system selects a television program or "audio and video" that meets the user's preferences and records it. The system receives user preferences from a preference database or "user attribute information" and program attributes from the television signal or "program attribute information" (See Fig. 1 elements 104, 105, 107, and 116; column 1 lines 54-67), wherein the user preferences store category value pairs, i.e. category: value, or "first hierarchical levels" and the program attributes store information in a similar fashion, i.e. Theme: sub-theme, or "second hierarchical levels" (See column 5 line 18 – column 6 line 35). The preference agent inherently creates a mapping that relates or "interrelates" the program attributes with the user preference or "at least a portion of said user attribute information and at least a portion of said program attribute information" so that the system can select television programs that are of interest to the user. The preference agent also supplements the mapping with a rating system that rates the user preferences against the program attributes and actual viewing habits of the user or "supplementing said mapping with at least one additional interrelationship" to further enhance the selection process (See Fig. 2; column 3 line 66 – column 4 line 35; column 8 lines 20-55; column 9 line 59 – column 10 line 31). The results from the mapping and ratings from the preference agent are used for selecting television programs to record.

However, Ismail lacks a feature where a service provider performs part of the selection process.

Lin discloses a system that monitors and controls the flow of data in a cable television network. When the user requests data, a bandwidth manager remote to the users, is used to select which channel the user will receive data from or "selecting is provided by a service provider remote to user" (See column 4 lines 15-30). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the system disclosed by Ismail to have the service provider perform part of the selection process, as taught by Lin, in order to ensure that the requested information is successfully delivered to the user.

Regarding claim 53, the selection process is based on the available bandwidth, which is managed by the bandwidth manager (See Lin column 4 lines 15-30).

Claim 55 contains the limitations of claims 53 and 54 and is analyzed as previously discussed with respect to those claims.

Claim 58 contains the limitations of claims 50 and 54 and is analyzed as previously discussed with respect to those claims.

Claim 59 contains the limitations of claims 50 and 55 and is analyzed as previously discussed with respect to those claims.

Claim 60 contains the limitations of claims 50 and 56 and is analyzed as previously discussed with respect to those claims.

Claims 51, 57, and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ismail et al. (US006614987B1) in view of Leary (US006425133B1).

Regarding claim 51, Ismail et al. (Ismail) discloses system for television program recording with user preference determination, wherein the system selects a television program or "audio and video" that meets the user's preferences and records it. The system receives user preferences from a preference database or "user attribute information" and program attributes from the television signal or "program attribute information" (See Fig. 1 elements 104, 105, 107, and 116; column 1 lines 54-67), wherein the user preferences store category value pairs, i.e. category: value, or "first hierarchical levels" and the program attributes store information in a similar fashion, i.e. Theme: sub-theme, or "second hierarchical levels" (See column 5 line 18 – column 6 line 35). The preference agent inherently creates a mapping that relates or "interrelates" the program attributes with the user preference or "at least a portion of said user attribute information and at least a portion of said program attribute information" so that the system can select television programs that are of interest to the user. The preference agent also supplements the mapping with a rating system that rates the user preferences against the program attributes and actual viewing habits of the user or "supplementing said mapping with at least one additional interrelationship" to further enhance the selection process (See Fig. 2; column 3 line 66 – column 4 line 35; column 8 lines 20-55; column 9 line 59 – column 10 line 31). The results from the mapping and ratings from the preference agent are used for selecting television programs to record.

However, Ismail lacks a feature where a service provider performs part of the selection process based on multiple potential service levels.

Leary discloses that cable television providers offer different tiers of services or "service levels". The different levels of services are available to all users, however, certain service levels are only available to users who select to pay an additional fee to the cable provider (See column 1 lines 30-60). Therefore, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the system disclosed by Ismail to have the service provider perform part of the selection process based on multiple service levels, as taught by Leary, in order to provide a security feature within the system thereby ensuring that certain services are provided to only users who have paid the fees.

Claim 57 contains the limitations of claims 51 and 54 and is analyzed as previously discussed with respect to those claims.

Claim 61 contains the limitations of claims 50 and 57 and is analyzed as previously discussed with respect to those claims.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please take note of Hendricks et al. (5,798,785) for their similar method of finding programs using Boolean searches.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Ustaris whose telephone number is (703) 305-0377. The examiner can normally be reached on Monday-Friday with alternate Fridays off from 7:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Faile, can be reached on (703) 305-4380. The fax phone number for this Group is (703) 872-9306.

Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (703) 305-4700.

Joseph C. Ustaris

JGU
May 11, 2004

VIVEK SRIVASTAVA
PRIMARY EXAMINER